REMARKS/ARGUMENTS

Brief Summary of Status

Claims 1-24 are pending in the application.

Claims 1-24 are rejected.

The Applicant has added 4 new dependent claims, namely, dependent claims 25-28.

35 U.S.C. § 103

The Examiner asserts:

"4. Claims 1-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cherubini et al (US Patent Number 6,741,551) in view of McCallister et al (US 6,005,897)." (hereinafter referred to as "Cherubini" and "McCallister", respectively) (office action, Paper No./Mail Date 20080726, p. 4)

The Applicant respectfully traverses.

The Applicant has amended certain of the claims.

The Applicant has added 4 new dependent claims, namely, dependent claims 25-28.

The Applicant respectfully points out that new dependent claims 25-28 show that the puncturing may be performed either before or after rearranging an order of the plurality of encoded bits in independent claims 1 and 13.

Within the Applicant's originally filed U.S. utility patent application (including specification/written description and figures), at least within the specification on page 26, lines 6-20, the Applicant provides support for the subject matter of puncturing of 1 or more encoded bits output from the encoder, rearranging the order of 1 or more of the encoded bits output from the encoder, and so on.

Clearly, puncturing and rearranging are two separate and distinct operations in accordance with the claims and the teaching and disclosure of the Applicant. Moreover, the Applicant respectfully asserts that one having skill in the art to which the invention pertains, if provided the Applicant's originally filed specification (including figures and written description), would properly understand that (1) rearranging of encoded bit could be effectuated before the puncturing of the rearranged, encoded bits or (2) puncturing of

the encoded bits could be performed before rearranging an order of the non-punctured (i.e., remaining) encoded bits as well. This may be clearly understood in dependent claims 25-28.

Dependent claims 25-28 show that puncturing (i.e., a separate and distinct operation from rearranging) may be performed before or after the rearranging.

As such, the Applicant also respectfully asserts that the rearranging an order of the plurality of encoded bits in independent claims 1 and 13 is not puncturing; in contradistinction, it is rearranging an order of the plurality of encoded bits.

The Applicant respectfully asserts that, given the fact that the Applicant explicitly claims and teaches and discloses two distinct and separate operations (e.g., (1) puncturing and (2) rearranging the order), one having skill in the art to which the invention pertains, if provided the Applicant's originally filed specification (including figures and written description), would properly understand that puncturing does not mean rearranging the order, or vice versa.

The Examiner refers to FIG. 3 of McAllister and asserts:

"In figure 3, McCallister et al. clearly illustrates that encoder 56 produces six encoded bits or symbols (s) in response to the three information bits processed by the PARSE 30. The output of the encoder 56 is input to Transparent Convolutional Encoder 62. The encoder 62 produces corresponding symbol pairs for the data streams in which either both symbols are inverted or neither symbol is inverted. Then the outputs of encoder 62 provide a secondary encoded bit stream to a puncture controller 64. Puncture controller 64 selectively removes predetermined bits from the secondary encoded bit stream and appropriately **restructures** (rearranges) the secondary encoded bit stream by delaying certain encoded bits as necessary (see col 6, lines 39-67, col 7, lines .

Figure 3 clearly shows how the bits are **restructured** (rearranged) after puncture controller 64. Bits are encoded by encoders 56 and 62 and are **restructured** (rearranged) at the output of the puncture controller 64. This is the same process as is broadly claimed in the claims. For example, in claim 2, the applicant claims **"rearranging an order of the pluralitv of encoded bits".** Figure 3 of McCallister et al. clearly illustrates that bits are **restructured** (rearranged) after puncture controller 64.

Applicants are remained that the Examiner is entitled to give the broadest reasonable interpretation **to the language of the claim.** So the Examiner considers **"restructuring the encoded bits"** is **"rearranging an order of the plurality of encoded bits"** within the broad meaning of the term. The Examiner is not limited to Applicant's definition, which is not specifically set fourth in the claims. *In re Tanaka et al.*, 193 USPQ 139, (CCPA) 1977." (office action, Paper No./Mail Date 20080726, p. 3-4, emphasis added)

The Applicant respectfully asserts that since puncturing and rearranging are explicitly set forth in the claims as separate and distinct operations, the Examiner must properly consider that puncturing is a separate and distinct operation from rearranging in accordance with the Applicant's claimed subject matter and in accordance with the Applicant's teaching and disclosure of these two separate and distinct operations.

The Examiner asserts that "Figure 3 of McCallister et al. clearly illustrates that bits are **restructured** (rearranged) after puncture controller 64"; however, it can be seen that the order of the bits is not rearranged after "puncture controller 64" in FIG. 3.

In FIG. 3 of McCallister, the bits going into "puncture controller 64" are shown as $s_1^4\ s_1^3\ s_1^0$ (i.e., showing the 2nd bit, s_1^3, is to be punctured), and the output from the "puncture controller 64" is shown as $s_1^4\ s_1^0$.

The bit, s_1^0, precedes the bit, s_1^4, going into the "puncture controller 64", and the bit, s_1^0, precedes the bit, s_1^4, coming out of the "puncture controller 64". There is not a rearranging of the order of these two bits, $s_1^4\ s_1^0$, within the "puncture controller 64" or within the output from the "puncture controller 64".

If an order of these bits were rearranged, then the bit, s_1^0, would no longer precede the bit, s_1^4, coming out of the "puncture controller 64" (e.g., it would follow).

Also in FIG. 3 of McCallister, other bits going into "puncture controller 64" are shown as $s_0^4\ s_0^3\ s_0^0$ (i.e., showing the 1st bit, s_0^4, is to be punctured), and the output from the "puncture controller 64" is shown as $s_0^3\ s_0^0$.

The bit, s_0^0, precedes the bit, s_0^3, going into the "puncture controller 64", and the bit, s_0^0, precedes the bit, s_0^3, coming out of the "puncture controller 64". There is not a rearranging of the order of these two bits, $s_0^3\ s_0^0$, within the "puncture controller 64" or within the output from the "puncture controller 64".

If an order of these bits were rearranged, then the bit, s_0^0, would no longer precede the bit, s_0^3, coming out of the "puncture controller 64" (e.g., it would follow).

Again, the Applicant respectfully points out that puncturing and rearranging are two separate and distinct operations in accordance with the claims and the teaching and disclosure of the Applicant.

The Applicant respectfully asserts that this teaching and disclosure of McAllister is not the same as rearranging an order of the bits (either before or after undergoing any puncturing).

The Applicant respectfully points out that McAllister could have taught and disclosed performing rearranging an order of the plurality of encoded bits (either before or after puncturing or in combination/simultaneously with the puncturing), but McAllister did not do so.

Again, the Applicant respectfully points out that although McAllister does teach and disclose a "puncture controller 64", there is no indication within the teaching and disclosure of McAllister that the order of the bits gets rearranged (either before the puncturing, after the puncturing, or in combination/simultaneously with the puncturing).

With respect to the inversion of symbols in McCallister, this also is not any rearranging of any order of bits or symbols therein.

As McCallister teaches and discloses:

"causes the encoded bits to become inverted from their true values. This inversion is easily compensated through differential decoding. As will be understood from the below-presented discussion, if the encoded bits are detected in their inverted state, the resulting decisions regarding uncoded bits yield results that are likewise easily compensated through differential decoding." (McCallister, col. 14, lines 2-8, emphasis added)

"Differential decoder 138 recovers the true data regardless of whether the data estimates from convolutional decoder 120 are inverted." (McCallister, col. 18, lines 8-10, emphasis added)

This is merely the inversion of the data value of a particular bit (e.g., 0 for 1, and 1 for 0). This is not rearranging of any order of bits or symbols, but merely inverting the value of a particular bit or symbol (i.e., order unchanged). As McCallister teaches and

discloses, this issue is "easily compensated through differential decoding". Note that there is no need to compensate for any rearranging of any order of bits or symbols within McCallister, as this inversion issue may be "easily compensated through differential decoding".

The Applicant respectfully asserts that the "puncture controller 64" of McAllister performs puncturing.

The Applicant respectfully asserts that the "puncture controller 64" of McAllister does not perform rearranging in accordance with the Applicant's claimed subject matter.

Again, the Applicant respectfully asserts that, given the fact that the Applicant explicitly claims and teaches and discloses two distinct and separate operations (e.g., (1) puncturing and (2) rearranging the order), one having skill in the art to which the invention pertains, if provided the Applicant's originally filed specification (including figures and written description), would properly understand that puncturing does not mean rearranging the order, or vice versa.

The Applicant also respectfully asserts that the inclusion of Cherubini does not overcome the deficiencies of McCallister.

These comments made above with respect to the Examiner rejection of independent claim 1 are also applicable to independent claim 13.

Therefore, the Applicant respectfully believes that the inclusion of McAllister with Cherubini fails to overcome the deficiencies of Cherubini.

The Applicant respectfully asserts that McAllister, and Cherubini, when considered individually or together, fails to teach and disclose each and every limitation of the subject matter as claimed by the Applicant in these claims.

In view of at least these comments made above, the Applicant also respectfully believes that independent claims 1 and 13 are allowable over Cherubini in view of McAllister.

The Applicant respectfully believes that these dependent claims rejected above, being further limitations of the subject matter as claimed in allowable independent claims, respectively, are also allowable.

As such, the Applicant respectfully requests that the Examiner withdraw the rejection of these claims under 35 U.S.C. § 103(a) as being unpatentable over Cherubini in view of McCallister.

The Applicant respectfully believes that claims 1-24 and 25-29 are in condition for allowance and respectfully requests that they be passed to allowance.

The Examiner is invited to contact the undersigned by telephone or facsimile if the Examiner believes that such a communication would advance the prosecution of the present U.S. utility patent application.

RESPECTFULLY SUBMITTED,

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